

US-PAT-NO: 6088732

DOCUMENT-IDENTIFIER: US 6088732 A

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TITLE: Control of data transfer and distributed data processing  
based on resource currently available at remote apparatus

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Application Filing Date - AD (1):

19980529

Detailed Description Text - DETX (7):

FIG. 3 schematically illustrates a network over which a distributed application operates to provide a service. A plurality of terminals 20, 21, 22 and 23 are connected via a network 27. Each terminal has resources R available which comprise hardware and software resources and also dynamic resources currently available e.g. currently available memory. Terminals 20, 21, 22 and 23 can comprise personal computers connected over a Wide Area Network such as the Internet or Intranet or over a Local Area Network (LAN). At each terminal 20, 21, 22 and 23 there is a terminal resource agent 25a, 25b, 25c and 25d which comprises an application active in the terminal to interface with a configuration engine 26a, 26b, or 26c which can be provided at any point in the network e.g. in a terminal 20, in the network 27 or in a non-participating terminal 24. The terminal resource agents 25a, 25b, 25c and 25d interface with the configuration engine 26a, 26b or 26c in order to control the transference of data and the provision of the service. Thus, the control of the distributed application is achieved by a distributed application. When a service is to operate over the network, each of the terminal resource agents determines a terminal profile which contains details of the resources offered by the terminal. The configuration engine 26a determines an application profile which contains details of the resources required by an application for it to run on a terminal. The provision of a service may require more than one application e.g. more than one media type (data type) in a multimedia environment and the configuration engine holds the application profile as a database for each application that is required for the service.

Detailed Description Text - DETX (9):

FIGS. 4a and 4b illustrates alternative methods of operation. In FIG. 4a the configuration engine sends the application profile to the terminal resource agent 31 and the terminal resource agent 31 carries out a comparison of the application profile and the terminal profile and returns the simple result of the comparison to the configuration engine 30.

Detailed Description Text - DETX (18):

In step S5 the configuration engine reads the profiles for the media types and in step S6 the media type profile having the highest priority is sent to each terminal resource agent. In step S7 the terminal resource agent receives and compares the media type profile with the terminal profile and in step S8 the results of the comparison are sent to the configuration engine. In step S9 it is determined whether there are any more profiles for media types and if so in step S10 the configuration engine sends the next media type profile to each terminal resource agent and the process returns to step S7. When in step S9 it is determined that all media type profiles have been compared with the terminal profiles, the configuration engine determines which media types required for the conference can be used by each terminal in step S11. The result is then displayed to the conference organiser in step S12 and in step S13 it is determined whether there is a media type which cannot be generated by any of the terminals. If in step S13 it is determined that there is a media type which cannot be generated by any of the terminals, this is deleted from the media types determined to be used by the terminals in step S15. In step S16 the media types to be used by each terminal for the conference are then displayed and in step S14 the conference organiser is given the option to go ahead with the conference. If a conference is not to go ahead the process stops at step S22. If the conference is to go ahead in step S17 the participants at the terminals are notified of the requested conference and in step S18 the participants can accept and join the conference. If the participants accept and join the conference, in step S19 the configuration engine configures the conference for each terminal according to which media types will run on the respective terminal. In step S20 the configuration engine sends configuration details to each terminal and in step S21 each respective terminal resource agent launches the conference media type on the respective terminal with the media types determined for the respective terminals.

Detailed Description Text - DETX (27):

In step S30 an information provider defines an information profile for information (video data) to be transferred to a user. In step S31 a user requests information from the information provider and in step S32 the information provider reads the user's profile. In step S33 the user profile is compared to the information profile and in step S34 it is determined whether the profiles are compatible. If the profiles are not compatible, in step S35 the information provider informs the user that the requested information cannot be used by the user. If the profiles are compatible in step S36 the information provider sends the requested information to the user in a configuration dependent on the user's profile.

US-PAT-NO: 6091518

DOCUMENT-IDENTIFIER: US 6091518 A

TITLE: Image transfer apparatus, image transmitter, profile  
information transmitter, image receiver/reproducer,  
storage medium, image receiver, program transmitter, and  
image color correction apparatus

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Application Filing Date - AD (1):  
19970625

TITLE - TI (1):  
Image transfer apparatus, image transmitter, profile information  
transmitter, image receiver/reproducer, storage medium, image receiver, program  
transmitter, and image color correction apparatus

Brief Summary Text - BSTX (2):

This invention relates to color image transfer techniques for distributing or transferring a color image and an object for preparing a color image over a network and in particular to an image transfer apparatus, an image transmitter, a profile information transmitter, an image receiver/reproducer, a storage medium, an image receiver, a program transmitter, and an image color correction apparatus which enable a receiving party to display an image with original image colors held.

Brief Summary Text - BSTX (5):

Disclosed as one of the color conversion techniques, for example, in the Unexamined Japanese Patent Application Publication Nos. Hei 7-203175 and 7-312694 is a technique wherein the transmitting party has a color conversion function and the receiving party transfers profile information to the transmitting party, which then executes color conversion and transmits the resultant image to the receiving party, which will be hereinafter referred to as first prior art. The profile information is information defining the characteristics of a color space used to describe colors used in color image information; generally, color spaces defined based on perception of human beings, such as CIE XYZ and CIE L\*a\*b\*, and information describing the mathematical relationship between the color spaces of color image information are used. In addition to the first prior art, a technique wherein the receiving party has a color conversion function and the transmitting party transfer profile information and an image to the receiving party, which then executes color conversion, which will be hereinafter referred to as second prior art, is disclosed in the Unexamined Japanese Patent Application Publication No. Hei 7-312694.

Brief Summary Text - BSTX (6):

By the way, to apply the conventional techniques described above to an image transfer apparatus using a large-scale network environment such as the Internet, an undesired situation occurs on efficiency of communication lines or administration of the system. That is, if the first prior art is applied, the color conversion function at the transmitting party must deal with color conversion requests from a large number of receivers. Thus, the transmitting party requires a large processing capability and if it has an insufficient processing capability, processing takes time. On the other hand, if the second prior art is applied, when the receiving party receives images from a number of transmitters, even if the received images have the same color space, profile information needs to be transmitted each time the transmitting party changes. Thus, fruitless communication becomes necessary and efficient use of the communication line capacity cannot be made. If either of the first and second prior arts is applied, it becomes necessary to transfer profile information between the transmitting and receiving parties each time one image transfer is executed. Thus, it cannot be avoided to bear the communication costs to transfer the profile information.

Brief Summary Text - BSTX (8):

It is therefore an object of the invention to provide an image transfer apparatus, an image transmitter, a profile information transmitter, and an image receiver/reproducer whereby color image information or object information for preparing color image information can be transferred without putting a large load on a specific transmitter or executing fruitless communication and the receiving party can reproduce an image with original image colors held.

Brief Summary Text - BSTX (14):

According to the image transfer apparatus, the image server 2 is released from the load for transferring profile information itself as well as the color correction load and can raise processing efficiency accordingly. Since the profile information itself is not transferred, congestion of the communication line connected to the image server 2 can be relieved. On the other hand, the image display device 3 can receive necessary profile information from the profile server 1 based on the profile specification information provided by the image server 2, so that an image color correction can be made without a hitch.

Detailed Description Text - DETX (19):

If profiles can be specified by information other than locations in the color image transfer apparatus according to the embodiment, such information may be used instead of the locations. For example, if headers are assigned to profiles in a unified manner in the color image transfer apparatus for uniquely specifying the profiles, such headers may be used instead of the locations. However, to use such headers, it becomes necessary to provide the system with a table for managing the correspondence between the profiles specified by the headers and the storage locations of the profiles in the system.

Detailed Description Text - DETX (24):

In the profile server 200a, a profile storage section 201 stores profiles. All locations of the profiles stored in the profile storage section 201 can also be specified uniquely by URLs. When a request for transmitting a profile comes through the network, a profile transmission section 202 transmits the requested profile to the requester. The profile server 200b, 200c, etc., has a similar configuration to that of the profile server 200a.

US-PAT-NO: 6609162

DOCUMENT-IDENTIFIER: US 6609162 B1

TITLE: Data processing apparatus connected to a network  
connectable a plurality of devices

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Abstract Text - ABTX (1):

In a network connecting a plurality of devices, the image processing function of each device, information for specifying each device, and the like are collected and controlled, and functions realizable by combining two or more devices are determined. **Profiles indicating respective combinations are transferred** to each device. Each device which has received the profiles displays executable functions based on the **profiles, and performs control, such as the operation of the device, transfer** of data, and the like, in order to realize a function selected from among the displayed functions.

Application Filing Date - AD (1):

**19990603**

Drawing Description Text - DRTX (10):

FIG. 9 is a diagram illustrating an example of the structure of a command to **transfer a device profile** which is provided for each apparatus on the network;

Drawing Description Text - DRTX (13):

FIG. 12 is a diagram illustrating an example of the structure of a **transfer-path profile generated by a transfer-path-profile** generation unit 409 shown in FIG. 4;

Drawing Description Text - DRTX (14):

FIG. 13 is a flowchart illustrating the operation of a **transfer-path-profile** supply unit 408 within the control server 103 shown in FIG. 4;

Drawing Description Text - DRTX (15):

FIG. 14 is a diagram illustrating an example of the structure of a command to **transfer a transfer-path profile**;

Drawing Description Text - DRTX (16):

FIG. 15 is a diagram illustrating an example of the structure of a transmission-path **profile transferred** to each apparatus in response to a command to **transfer a transfer-path profile**;

Detailed Description Text - DETX (8):

A control server 103 generates function information used when constructing a virtual multifunction peripheral (hereinafter abbreviated as "MFP") system having a plurality of functions which can be realized by combining the scanner 102, network printers 2095, 2902 and 2903, and a network facsimile device 2904 (hereinafter termed a "transfer-path profile"), **and provides the transfer-path profile** in response to a request from an image input device, an image output device or the like connected to the network 101. The control server 103 is usually realized by introducing server software in a personal computer or a work station. The control server 103 includes a network interface, and is connected to the respective devices via the network 101.

Detailed Description Text - DETX (13):

In FIG. 2, the scanner 102 includes as main components a scanner engine 201 which utilizes a known optical reading technique, a central processing unit (hereinafter abbreviated as a "CPU") 202 for controlling the entire operation of the scanner 102, a ROM (read-only memory) 204 storing control programs to be executed by the CPU 202, a network interface (I/F) 205 connected to the network 101, a device-profile supply unit 206 for transmitting a device profile, serving as device information relating to the scanner 102, to the control server 103, a transfer-path-profile acquisition unit 207 for acquiring a transfer-path profile, serving as information (function information) relating to functions realizable in the system, from the control server 103, an operation panel 208, including display devices, such as a liquid-crystal display device, an LED (light-emitting diode) display device and the like, and a plurality of operation buttons, for providing a user interface, and a random access memory (hereinafter abbreviated as a "RAM") 203 for temporarily storing image data read by the scanner engine 201, a transfer-path profile acquired by the transfer-path-profile acquisition unit 207, and storage information for operation.

Detailed Description Text - DETX (16):

In FIG. 3, the printer 2903 includes as main components a printer engine 301 which utilizes a known electrophotographic printing technique, a CPU 302 for controlling the entire operation of the printer 2903, a ROM 304 storing operation control programs to be executed by the CPU 302, a network interface (I/F) 305 connected to the network 101, a device-profile supply unit 306 for transmitting a device profile, serving as device information relating to the printer 2903, to the control server 103, a transfer-path-profile acquisition unit 307 for acquiring a transfer-path profile from the control server 103, an operation panel 308, including display devices, such as a liquid-crystal display device, an LED display device and the like, and a plurality of operation buttons, for providing a user interface, and a RAM 303 for temporarily storing image data to be subjected to printing by the printer engine 301, a transfer-path profile acquired by the transfer-path-profile acquisition unit 307, and storage information for operation.

Detailed Description Text - DETX (19):

In FIG. 4, the control server 103 includes as main components a CPU 401 for controlling the entire operation of the control server 103, a RAM 402 for storing storage information for operation and programs for controlling the operation of the CPU 401, a device-profile database 404 storing device profiles of devices connected to the network 101, a transfer-path-profile database 405 storing transfer-path profiles generated based on the device profiles, a network I/F 406 connected to the network 101, a device-profile acquisition unit 407 for acquiring a device profile from a device connected to the network 101 and storing the acquired device profile in the device-profile database 404, a transfer-path-profile supply unit 408 for reading transfer-path profiles from the transfer-path-profile database 405 in accordance with a request from each device connected to the network 101 and supplying the device with the transfer-path profiles via the network 101, and a transfer-path-profile generation unit 409 for generating transfer-path profiles from the device profiles stored in the device-profile database 402 and writing the generated transfer-path profiles in the transfer-path-profile database 405.

Detailed Description Text - DETX (20):

The control server 103 generates a transfer-path profile, serving as function information relating to a virtual MFP system obtained by combining the scanner 102, the printers 2903, 2095 and 2902 as described above, and controls the generated transfer-path profile. The transfer-path profile is generated based on the device profile of each device connected via the network 101.

Detailed Description Text - DETX (33):

First, the device-profile acquisition unit 407 transmits a command to transfer a device profile to each device connected to the network 101 (step S701).

Detailed Description Text - DETX (34):

FIG. 9 is a diagram illustrating an example of the structure of a command to transfer a device profile transmitted to each device transmitted in step S701.

Detailed Description Text - DETX (35):

In FIG. 9, "REQ" indicates that the command is a transfer command, and "Device-Profile" indicates that data to be transferred is a device profile. That is, it is indicated that the command shown in FIG. 9 is a command to transfer a device profile. This command to transfer a device profile is subjected to broadcast communication with respect to the network in the form of UDP packets using TCP/IP.

Detailed Description Text - DETX (36):

Returning to FIG. 8, it is then determined if a device profile is transferred from each device (step S702). If the result of the determination in step S702 is negative, the procedure of step S702 is repeated. If the result of the determination in step S702 is affirmative, the transferred device profile is recorded in the device-profile database 404 (step S703). Upon completion of the processing in step S703, the process returns to the procedure



in step S702.

Detailed Description Text - DETX (37):

FIG. 10 is a diagram illustrating an example of the structure of a device profile transferred from the scanner 102 to the control server 103 in the above-described step S702.

Detailed Description Text - DETX (38):

As shown in FIG. 10, the device profile to be transferred is provided by adding "SEND DEVICE-PROFILE" as information indicating transfer of a device profile at the head of the device profile shown in FIG. 5, and "END OF PROFILE" as information indicating end of transferred data at the end of the device profile.

Detailed Description Text - DETX (39):

Next, a case of transferring a device profile from the scanner 102 to the control server 103 will be described. In the case of the scanner, transfer of a device profile is performed by the device-profile supply unit 206 shown in FIG. 2. The procedure for transferring the device profile of the printer 2903, 2095 or 2903 performed by the device-profile supply unit 206 is the same as the procedure for transferring the device profile of the scanner 102 performed by the device-profile supply unit 206.

Detailed Description Text - DETX (40):

FIG. 11 is a flowchart illustrating a device-profile transfer procedure performed by the device-profile supply unit 206.

Detailed Description Text - DETX (42):

First, the device-profile supply unit 206 executes transfer of a device profile to the control server 103 when being started (step S901). At that time, when the control server 103 has been started, then, in step S702 shown in FIG. 8, the transferred device profile is acquired by the control server 103, and the result of the acquisition is reflected in the device-profile database 404. When the control server 103 has not been started, the transferred device profile is not reflected in the device-profile database 404 of the control server 103.

Detailed Description Text - DETX (43):

Then, it is determined if a command to transfer the device profile transmitted from the control server 103 has been received (step S902). If the result of the determination in step S902 is negative, the procedure of step S902 is repeated until the command is received.

Detailed Description Text - DETX (45):

The processing of step S903 is performed in order to reflect device information in the device-profile database 404 of the control server 103 when

the control server 103 has been started after starting the scanner 102. That is, by provision of the command to transfer the device profile in step S701 shown in FIG. 8 by the device-profile acquisition unit 407 of the control server 103, the control server 103 is always guaranteed to acquire the device profile of each device connected to the network 101. After acquiring the device profile, the control server 103 causes the transfer-path-profile generation unit 409 to generate a transfer-path profile based on device information written in the device-profile database 404. The generated transfer-path profile is stored in the transfer-path-profile database 405.

Detailed Description Text - DETX (46):

FIG. 12 is a diagram illustrating an example of the structure of a transfer-path profile generated by the transfer-path-profile generation unit 409.

Detailed Description Text - DETX (47):

As shown in FIG. 12, the transfer-path profile includes "Description" which is data indicating a character string to be displayed on the display unit of the concerned device when selecting the corresponding transfer path, "input-device" which is data indicating the type of the input device, "output device" which is data indicating the type of the output device, "input-address" which is data indicating the network address of the input device, "output-address" which is data indicating the network address of the output device, "Document format" which is data indicating the format of the document used in this transfer path, "Copy-default" which is data indicating the number of copies to be used in default setting, "Resolution" which is data indicating the resolution used in this transfer path, and "Input-command" which is information written in the device profile of the input device and is a command to cause the input device to read image data.

Detailed Description Text - DETX (48):

As described above, the transfer-path profile stores configuration information indicating a virtual MFP obtained by combining an input device and an output device connected to the network 101. For example, the transfer-path profile shown in FIG. 12 indicates a transfer-path profile when realizing a copying function by combining the scanner 102, serving as the input device, with the printer 2095, serving as the output device.

Detailed Description Text - DETX (49):

The control server 103 usually possesses at least one transfer-path profile, and supplies each device with transfer-path profiles in response to a request from an input device or an output device connected to the network 101. FIG. 13 is a flowchart illustrating the operation of the transfer-path-profile supply unit 408 provided within the control server 103. The transfer-path-profile supply unit 408 starts the following operation when the control server 103 has been started.

Detailed Description Text - DETX (50):

When starting the control server 103, all transfer-path profiles stored in the transfer-path-profile database 405 are notified to all devices connected to the network 101 (step S1101). The notification of the transfer-path profiles is performed by broadcast notification.

Detailed Description Text - DETX (51):

Then, it is determined if there is a change in the transfer-path-profile database 405 (step S1102). If the result of the determination in step S1102 is affirmative, the changed transfer-path profile is notified to all devices connected to the network 101 (step S1103). The notification in step S1103 is also performed by broadcast notification.

Detailed Description Text - DETX (52):

If the result of the determination in step S1102 is negative, or after the changed transfer-path profile has been notified to all the devices connected to the network 101, it is determined if a command to transfer the transfer-path profiles transmitted from one of the devices has been received (step S1104). If the result of the determination in step S1104 is affirmative, the process proceeds to step S1105, where all the transfer-path profiles stored in the transfer-path-profile database 405 are notified to the device which has provided the command to transmit the transfer-path profiles. The command to transmit the transfer-path profiles is transmitted from a device, which could not acquire the transfer-path profiles notified from the control server 103 in step S1101, for example, because the device has been started after the start of the control server 103, to the control server 103.

Detailed Description Text - DETX (53):

If the result of the determination in step S1104 is negative, or after completion of the transfer of the transfer-path profiles in step S1105, the process returns to step S1102, and the processing procedure from step S1102 to step S1105 is repeated.

Detailed Description Text - DETX (54):

FIG. 14 is a diagram illustrating an example of the structure of a command to transfer a transfer-path profile. In FIG. 14, "REQ" indicates that this command is a transfer command, and "TRANSFER-PATH-PROFILE" indicates that an object to be transferred by request of the command is a transfer-path profile.

Detailed Description Text - DETX (55):

FIG. 15 is a diagram illustrating an example of the structure of a transfer-path profile to be transferred from the control server 103 to each device in response to the command to transfer a transfer-path profile. As shown in FIG. 15, the transfer-path profile to be transferred is provided by adding "SEND TRANSFER-PATH-PROFILE" as information indicating transfer of a transfer-path profile at the head of the transfer-path profile shown in FIG. 12, and "END OF PROFILE" as information indicating end of transferred data at the end of the transfer-path profile.

Detailed Description Text - DETX (56):

Next, a description will be provided of a procedure for acquiring transfer-path profiles by the transfer-path-profile acquisition unit 207 of the scanner 102. The procedure for acquiring transfer-path profiles by the transfer-path-profile acquisition unit 307 of the printer 2903, 2095 or 2903 is similar to the procedure for acquiring a transfer-path profiles by the transfer-path-profile acquisition unit 207 of the scanner 102.

Detailed Description Text - DETX (57):

FIG. 16 is a flowchart illustrating the operation of the transfer-path-profile acquisition unit 207 of the scanner 102.

Detailed Description Text - DETX (58):

First, in order to acquire transfer-path profiles, the transfer-path-profile acquisition unit 207 provides the control server 103 with a command to transfer transfer-path profiles (step S1401). Upon reception of the command to transfer transfer-path profiles by the control server 103, the transfer-path-profile supply unit 408 transfers transfer-path profiles to a device which has transmitted the command to transfer transfer-path profiles, i.e., the scanner 102 (step S1105 shown in FIG. 13).

Detailed Description Text - DETX (59):

Then, it is determined if the transfer-path profiles have been received (step S1402). If the result of the determination in step S1402 is negative, the procedure of step S1402 is repeated until the transfer-path profiles are received. If the result of the determination in step S1402 is affirmative, the received transfer-path profiles are stored in the RAM 203 of the scanner 102, and the processing of step S1402 is resumed.

Detailed Description Text - DETX (60):

According to the above-described operation, each device connected to the network 101 can acquire the current transfer-path profiles from the control server 103. The acquired transfer-path profiles are stored in the RAM 203.

Detailed Description Text - DETX (61):

The operation shown in FIG. 16 may, for course, be applied to the transfer-path acquisition procedure performed by the transfer-path-profile acquisition unit 307 of the printer 2903, 2095 or 2903.

Detailed Description Text - DETX (85):

First, the user selects a desired function by operating the display picture frame (shown in FIG. 18) displayed on the operation panel 208. By depressing the start key 3002 shown in FIG. 17, a copying function utilizing the selected transfer-path profile is executed. For example, when obtaining only one copy in a monochromatic mode, one of the printers 2095 and 2902, and the facsimile apparatus 2094 may be selected as the output device.

Detailed Description Text - DETX (86):

When the user has selected a desired transfer-path profile indicating a monochromatic copying operation, for example, priority is given in the order of the a printer having the highest speed.fwdarw.a printer having the second highest speed.fwdarw.a color printer. Since the printer 2095, serving as the printer having the highest speed, is currently operating for another job, the transfer-path profile for the printer 2903 having the second highest speed is selected.

Detailed Description Text - DETX (87):

According to the transfer-path profile shown in FIG. 15, the scanner 102 selects the device at the address "172.16.10.3" written in "output-address" as the output device, reads the original with a resolution level of 600 dpi written in "Resolution" and transmits image data in the LIPS4 format written in "Document-format". Only one copying operation is performed as written in "Copy-default".

Detailed Description Text - DETX (88):

Printing data is transferred to the printer 2903 via the network 101. At that time, the printer 2903 performs printing processing for the tranferred image data irrespective of the transfer-path profile. At the input device side, after outputting image data, the output device to which the image data is transmitted is displayed.

Detailed Description Text - DETX (89):

As described above, according to the embodiment, device information (a device profile) of each of input devices and output devices connected to the network is acquired by the control server 103. Transfer-path profiles are formed based on the device profiles and are transmitted to each of the input devices and output devices. In each device, all of executable functions are displayed on an operation panel in accordance with the transfer-path profile. Accordingly, the user can easily grasp functions executable on the network, and can use a virtual device realizable by combining devices on the network without moving between devices having necessary functions. For example, when intending to perform printing output of image data read by a scanner present at hand using an output device remote from the user, all functions usable at that time are displayed on the operation panel. Hence, it is possible to easily set a desired function as if a single device is used, and to improve the operability of devices. Furthermore, since all functions which can be obtained on the network are automatically determined and are displayed, the user can use the system without being aware of the combination of devices, and the man-machine interface can be further improved. The number of devices to be combined is not limited to two. At least three devices may also be combined. For example, three devices are combined such that image data input to an image input device is transferred to another device which converts the format of the image data into another format, and the resultant image data is transferred to an image output device which outputs the image data.

Detailed Description Text - DETX (95):

By depressing the display position of an image-path selection key 3170 in the copying picture frame shown in FIG. 22, it is determined that an input operation on the image-path selection key 3170 has been performed, and processing of selecting a transfer-path profile is performed. The display on a panel display unit 3101 shown in FIG. 22 indicates the contents of the panel display when the image-path selection key 3170 has been first depressed. In this case, a character string "COPY ScannerXXX to LBPXXX" indicated in "Description" shown in FIG. 12 is displayed on the panel display unit 3101, indicating that the transfer-path profile shown in FIG. 12 is selected.

Detailed Description Text - DETX (96):

If a plurality of transfer-path profiles are registered in the network scanner 102, another transfer-path profile is selected by further depressing the image-path selection key 3170. Thus, it is possible to select another transfer-path profile as displayed on the panel display unit 3101.

Detailed Description Text - DETX (101):

Next, a description will be provided of a copying picture frame when a transfer-path profile has been selected. FIG. 24 is a diagram illustrating the display of a copying picture frame when a transfer-path profile in the embodiment has been selected. FIG. 24 differs from FIG. 22 in that the transfer-path profile has been selected.

Detailed Description Text - DETX (104):

By depressing the sheet selection button 3108, a picture frame shown in FIG. 25 appears. FIG. 25 is a diagram illustrating the display of a sheet selection picture frame when a transfer-path profile in the embodiment has been selected.

Detailed Description Text - DETX (106):

By depressing the sorter setting button 3110, a sorter setting picture frame shown in FIG. 26 is displayed. FIG. 26 is a diagram illustrating the display of a sorter setting picture frame when a transfer-path profile in the embodiment has been selected.

Detailed Description Text - DETX (107):

In the embodiment, as shown in "Option" information shown in FIG. 7, a sorter capable of performing stapling is provided. Hence, a stapling function can be selected. By selecting the two-sided-copying setting button 3112, a two-sided-copying setting picture frame shown in FIG. 27 is displayed. FIG. 27 is a diagram illustrating the display of a two-sided-copying setting picture frame when a transfer-path profile in the embodiment has been selected. On the display picture frame shown in FIG. 24, a two-sided copying mode can be selected.

Detailed Description Text - DETX (111):

First, a function to be performed is selected using the image-path selection key 3120. That is, a desired function is selected from transfer-path profiles. By depressing the start key 3002 shown in FIG. 17, a copying function utilizing the corresponding transfer-path profile is executed.

Detailed Description Text - DETX (112):

According to the transfer-path profile shown in FIG. 15, the network scanner 102 selects "172.16.10.3" written in "output-address" as the output device.

Detailed Description Text - DETX (114):

The printing data is transferred to the network printer 2903 via the network 101. At that time, the network printer 2903 performs printing processing of the transferred printing data irrespective of the transfer-path profile.

Detailed Description Text - DETX (116):

As described above, according to the embodiment, a control server can obtain device information relating to input devices and output devices connected to a network. By forming and registering transfer-path profiles having multiple functions obtained by combining the input devices and the output devices by the control server, it is possible to transfer transfer-path profiles to a desired device and display-executable functions on an operation panel of the device.

Claims Text - CLTX (1):

1. A controlling method in a data processing system having a server and a plurality of data processing terminals, said method comprising: a gathering step of gathering function information indicating a function of each of the plurality of data processing terminals from a corresponding one of the plurality of data processing terminals; a first storing step of storing the gathered function information in a first database of the server; a producing step of producing a transfer-path profile indicating each function realizable by combining some of the plurality of data processing terminals, based on the function information gathered in said gathering step; a second storing step of storing the transfer-path profile in a second database of the server; and a transferring step of transferring the transfer-path profile produced in said producing step from the second database to one or more terminals of the plurality of data processing terminals, upon request from the one or more terminals.

Claims Text - CLTX (2):

2. A controlling method according to claim 1, wherein the transfer-path profile produced in said producing step comprises a setting indicating a function realizable by an image input terminal and an image output terminal of the data processing system.

Claims Text - CLTX (4):

4. A controlling method according to claim 1, wherein the transfer-path profile produced in said producing step includes information for specifying a

subset of the plurality of data processing terminals.



US-PAT-NO: 5996012

DOCUMENT-IDENTIFIER: US 5996012 A

\*\*See image for Certificate of Correction\*\*

TITLE: Application development process for use in a distributed  
computer enterprise environment

----- KWIC -----

Application Filing Date - AD (1):

19961210

Brief Summary Text - BSTX (10):

It is yet another important object to create abstract, architecture- and platform-independent profiles that describe configuration settings for the resources and services they manage.

Detailed Description Text - DETX (5):

As seen in this figure, the enterprise includes a top-level corporate profile manager 30 containing three application configuration profiles P1, P2 and P3. Various profile managers at the workgroup level are defined, including a sales profile manager 32, a marketing profile manager 34 and an R&D profile manager 36. Each workgroup profile manager subscribes to the profile configurations contained at the corporate level. Within the workgroups, those entries in the configurations that are not fixed by the policy established in the corporate profile manager may be overridden as necessary. Additionally, workgroup-specific configuration profiles (such as P4 and P5 in profile manager 32) may be defined. A set of profile endpoints subscribed to the workgroup profile managers perform several tasks. They receive information and actions described in the profile configurations and update system files. They change configurations, and they augment system operations as directed by the system configurations. An administrator is then able to change one item at the corporate profile manager level and affect all machines by merely pressing one button.

Detailed Description Text - DETX (54):

As also noted, Distribute is the process of causing the endpoint configuration to mirror the profile. Preview is the special case of Distribute, where the changes which would be made to the endpoint are reported back to the user (but not made). In the preferred embodiment, endpoint actions are application-specific operations that occur as the result of a Distribute operation. These actions may occur as each distributed data record is processed, or in a batch operation at the end of the distribution. Endpoint actions are not triggered as a result of a Preview operation.

Detailed Description Text - DETX (61):

The Record Editing functions include Add, Modify, Delete, Touch, Copy and Move. The Add function adds a single record (by CLI or GUI) to a profile. Preferably, more than one record may be added via a Populate operation. Modify can operate on more than one record at a time, but can only change one attribute at a time. Modify changes a single attribute on one or more records to a new value or a modified version of an existing value (through a regexp substitution). Delete operates on one or more records, and it simply marks the record as deleted. Copy can operate on one or more records, and it causes an exact copy of the source records to be created in the destination profile. Because the goal of Copy is to make records an exact copy, default policy is not run at the destination. Move can operate on one or more records, and it causes the record(s) to be deleted from the source profile and created in the destination profile. Again, since the goal of Move is to simply transfer the record from one profile to another, default policy is not run at the destination. Touch causes a timestamp on a given record to be marked as current. Touch can operate on one or more records, and it will cause those records to be distributed at the next profile distribution.

Claims Text - CLTX (8):

(e) using the modified profile object to generate source code for the configuration management application.

US-PAT-NO: 6546002

DOCUMENT-IDENTIFIER: US 6546002 B1

TITLE: System and method for implementing an intelligent and  
mobile menu-interface agent

----- KWIC -----

Application Filing Date - AD (1):  
19990707

Brief Summary Text - BSTX (14):

Currently, users may save a list of phone numbers on her personal computer's telephone directory software. Similarly, a user may go to a television guide web site and save a list of favorite television shows and times. Time and effort could be saved if the list of phone numbers were transparent to the user's telephone and the list of favorite television shows transparent and accessible to the user's television. In other words, besides the advantage of being cross platform, using the mobile interface agent system allows user profile, configuration and settings information to be handled intelligently by network services to export information between networks such as the Internet, cable television network, or telephone network. This allows not only cross platform advantages, but cross network advantages as well.

Brief Summary Text - BSTX (27):

It is another object of the present invention to provide a system and method that allows a profile manager to export a user's profile, configuration, or settings data from one communications network such as the Internet to another network (such as the cellular phone network or the cable television network) to be accessible by mobile interface agents or other software or devices on the other network.

Detailed Description Text - DETX (52):

Once the user has logged on, FIG. 1b again illustrates a graphic interface used by a MIA 102 once a user has logged on. In this example, a set of menu's associated with a user's specific configuration and profile is shown. MIA options are accessed through the menu system. In addition to a simple menu interface, a user can elect to associate a graphical icon such as a teddy bear graphical icon or other figure to the menu system.

Detailed Description Text - DETX (65):

Similarly, this concept can be extended to other types of networks. For example, a user can use a listing of television program listings configured on a MIA running on a PC connected to the Internet to program a cable set top box

on a cable television network. As another example, a cable set top box user on a cable television network could use a MIA to record viewing habits. This information could later be **transferred from the cable television network profile** manager, via a gateway, to a profile manager running on the Internet and be used to determine the types of web banner advertising a user would be interested in viewing.

Claims Text - CLTX (7):

7. A method according to claim 1, wherein the step of retrieving the mobile interface from the network server comprises the step of retrieving the mobile interface agent user **profile and configuration** data via the Internet.

Claims Text - CLTX (11):

11. A method for retrieving user specific resources and information stored either on a local device or a network server, the method comprising the steps of: displaying the mobile interface on the local device, the mobile interface including a plurality of pointers corresponding to the user specific resources and information; retrieving user **profile and configuration** data from the network server to the local device, wherein the user **profile and configuration** data is used to update the data associated with the mobile interface; retrieving the user specific resources and information using the plurality of pointers displayed on the mobile interface.

Claims Text - CLTX (17):

17. A method according to claim 11, wherein the step of retrieving the user **profile and configuration** data from the network server comprises the step of retrieving the user **profile and configuration** data via the Internet.

Claims Text - CLTX (18):

18. A method according to claim 11, wherein the step of retrieving the user **profile and configuration** data from the network server comprises the step of retrieving the user **profile and configuration** data via one of a LAN, a MAN, and a WAN.

Claims Text - CLTX (19):

19. A method according to claim 11, wherein the step of retrieving the user **profile and configuration** data from the network server comprises the step of retrieving the user **profile and configuration** data via a cellular network.

Claims Text - CLTX (20):

20. A method according to claim 11, wherein the step of retrieving the user **profile and configuration** data from the network server comprises the step of retrieving the user **profile and configuration** data via a television network.

Claims Text - CLTX (21):

21. A method according to claim 11 further comprising exporting user

profile and configuration data from a first network to a second network.